

II. REMARKS

The final Office Action dated November 30, 2006, has been received and carefully noted. The following remarks and enclosed Declaration are being submitted as a full and complete response thereto.

Claims 1 – 23 are pending.

At this time, claims 1, 2, 5, and 9 are amended, and claims 6 and 13 are canceled. Support for the amendments can be found in the specification and claims as originally filed. For example, claim 1 has been amended to incorporate the limitations of claim 6. Further, claim 1 has been amended to limit the number of carbon atoms of "R" of general formula (1) to "20-24." Support for this amendment can be found in the Examples and on page 3, lines 3-4 of the specification. Claim 1 has also been amended to limit (b1) to 12-17 carbons and (b2) to 18 carbons. Support for this amendment can be found in the Examples, which disclose DDM (dodecyl methacrylate having 12 carbon atoms), HDM (hexadecyl methacrylate having 16 carbon atoms) and ODM (octadecyl methacrylate having 18 carbon atoms). Claim 1 has been further amended to limit the units by weight of monomer (c) to "5-30%." Support for this amendment can be found in the table on page 11 of the specification. Claim 1 has also been amended to remove "amide" groups as a possible definition of monomer (c). Claim 2 has been amended to correct a typographical error in the chemical structure of formula (2). Support for this amendment can be found in the specification on page 3, line 13. Claims 2, 5 and 9 have been amended to be consistent with the amendments to claim 1. Therefore, Applicants believe that no new matter is added. Applicants respectfully request reconsideration and withdrawal of all rejections.

At this time, Applicants also submit a Declaration containing the results of tests on wear resistance.

Claims 1-23 were rejected under 35 U.S.C. § 102(e) over Yuki et al. (U.S. Patent No. 6,746,993) (Yuki '993). Applicants traverse the rejection.

As noted in the Responses filed on April 3, 2006 and September 13, 2006, Applicants respectfully reemphasize that the present application is entitled to an invention date of August 2, 2002, which is prior in time to the August 7, 2002 U.S. filing date of Yuki '993. As such, Applicants respectfully resubmit that Yuki '993 is not a proper reference as to the claims of the present application.

In response to the Examiner's assertion that "this application [USSN 10/212,784, which issued as Yuki '993'] was cited by the applicants in their arguments of 9/13/06" (Office Action, page 2, lines 2-3), Applicants respectfully note that Yuki '993 was cited in the Response filed on September 13, 2006 only in the context of asserting that the reference is not proper reference. In the Response filed on September 13, 2006, Applicants argued that the presently claimed invention is patentable over U. S. Patent Publication No. 2003/0036488 (Yuki '488'), of which Yuki '993 is a continuation-in-part.

Applicants resubmit that the presently claimed invention is patentable over Yuki '488. Claim 1 of the presently claimed invention is directed to a viscosity index improver which comprises "oil soluble copolymer (A) having a weight-average molecular weight of 3,000 - 500,000 and comprising units of 5-90% by weight of a monomer (a)..., units of 5-90% by weight of at least one monomer (b)..., and units of 5-30% by weight of (c) an unsaturated monomer having at least one group selected from hydroxyl and carboxyl groups" (present claim 1) (emphasis added).

In contrast, Applicants submit that Yuki '488 discloses a Polymer (A), which "comprises units of at least one monomer selected from the group consisting of an acrylic monomer (hereinafter referred to as (a))..., an alkyl alkenyl ether (hereinafter referred to as (b)), an alkenyl carboxylate (hereinafter referred to as (c)) and a nitrogen-containing unsaturated monomer (hereinafter referred to as (d))" (Yuki '488, page 1, paragraph [0011]). Further, Yuki '488 discloses that additional monomers (e) through (m) may be present in Polymer (A), including hydroxyl-containing monomers (monomer (l) and vinyl monomer containing carboxylic acid groups (monomer (m)) (Yuki '488, pages 3-4, paragraphs [0062] – [0091]). Yuki '488 also discloses:

The sum amount of (a) and (b)... [is] preferably at least 30%, more preferably 50-100%, particularly 80-100% against total amount of monomer(s) to be used for synthesis (A)... If (c) and/or (d) is used together with (a) and/or (b), the amount of (c) preferably at most 45%, particularly at most 40%, and the amount of (d), preferably at most 12%, particularly at most 10%... If (d) to (m) is employed by requirement, together with the monomers (a) to (c)..., the sum amount... is preferably 0-20%, particularly 0.1 to 10%...

(Yuki '488, page 4, paragraphs [0093]- [0094]) (emphasis added).

Applicants submit that Yuki '488 fails to disclose with sufficient specificity the composition of the presently claimed invention. According to the Manual of Patent Examining Procedure (MPEP),

[W]hen the prior art discloses a range which touches, overlaps or is within the claimed range, but no specific examples falling within the claimed range are disclosed, a case by case determination must be made as to anticipation. In order to anticipate the claims, the claimed subject matter must be disclosed in the reference with 'sufficient specificity to constitute an anticipation under the statute'" (MPEP § 2131.03).

Applicants submit that based on the teachings of Yuki '488 and without the benefit of hindsight, one of ordinary skill in the art would not have known to select the specific

monomers in the specific weight percentages of the presently claimed invention. In other words, Applicants submit that Yuki '488 does not teach or suggest the claimed composition with sufficient specificity, let alone the critical range of components and the unexpected benefits of having a composition having monomers containing a carboxyl, or hydroxyl group as constituent elements which are always present in a range of 5 to 30% (claim 1).

Applicants also note that the Examples of Yuki '488 do not disclose compositions containing monomer (c) of the presently claimed invention, or unsaturated monomers having at least one group selected from hydroxyl and carboxyl groups. Further, Applicants submit that Yuki '488 does not disclose any effects or advantages brought about by using a monomer containing hydroxyl or carboxyl groups.

Applicants submit the enclosed Declaration, which compares compositions encompassed by the presently claimed invention, which have monomers containing hydroxyl or carboxyl groups in the amount of 5 to 30%, to compositions which do not contain such monomers in the claimed range. In particular, the Declaration compares compositions with HEMA (hydroxyl-containing monomer) and MAA (carboxyl-containing monomer) in weight amounts of 6% and 25% (Examples 5-12), to compositions with HEMA and MAA in weight amounts of 4% (Examples 1-4). The Declaration shows that compositions encompassed by the presently claimed invention, are unexpectedly superior to the compositions which contain monomer (c) in an amount outside of the claimed range. Specifically, the Declaration shows that the compositions of the presently claimed invention have improved wear resistance and a much smaller wear mark diameter of a ball (diameter of wear of 0.21 mm to 0.46 mm) compared to those

with monomer (c) in an amount outside of the claimed range (diameter of wear of 0.65 to 0.75 mm). Applicants submit that this is a significant difference in the wear amount of metal surfaces.

Applicants submit that Yuki '488 does not disclose the property of improved wear resistance, let alone what percentage amount of which particular monomers are necessary to achieve improved wear resistance. As such, Applicants submit that Yuki '488 does not teach or suggest the presently claimed composition with sufficient specificity, and therefore, Applicants submit that the presently claimed invention is patentable over Yuki '488.

For at least the above reasons, Applicant respectfully request reconsideration and withdrawal of the rejection of claims 1-23 under 35 U.S.C. § 102(e) over Yuki '488.


To the extent that Yuki '933 may or may not disclose additional monomers and/or compositions, the same would be the new matter added to U.S. Patent Application No. 10/212,784, making it a continuation-in-part. Such additional material would have a filing date of August 7, 2002, and thus, would not be a proper reference, as noted above.

III. CONCLUSION

Applicants respectfully submit that this application is in condition for allowance and such action is earnestly solicited.

In the event this response is not timely filed, the Applicants hereby petition for an appropriate extension of time. The fee for this extension, along with any other additional fees which may be required with respect to this response, may be charged to Deposit Account No. 01-2300, referencing Attorney Docket No. 103176-00003

Respectfully submitted,



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Enclosure: Declaration

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